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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,347	12/21/2005	Shuichi Shimizu	JP920020100US1	8290
877 7590 03/17/2009 IBM CORPORATION, T.J. WATSON RESEARCH CENTER P.O. BOX 218 YORKTOWN HEIGHTS, NY 10598				
EXAMINER RICEK, JASON D				
ART UNIT 2442		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

iplawyor@us.ibm.com

Office Action Summary

Application No.

10/523,347

Applicant(s)

SHIMIZU ET AL.

Examiner

JASON RECEK

Art Unit

2442

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-32 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-32 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This is in response to the amendment filed on January 5th 2009.

Status of Claims

Claims 22-32 and 34 are pending.

Claims 22-32 and 34 are rejected under 35 U.S.C. 103(a).

Claim 22 is rejected under 35 U.S.C. 112, second paragraph.

Response to Arguments

1. Applicant's arguments with respect to the specification objection have been fully considered and are persuasive. The objection of the specification has been withdrawn.
2. Applicant's arguments, see pg. 10 with respect to the rejection(s) of claim(s) 22 under 103(a) have been fully considered and are persuasive. Specifically, the argument that Monteiro and Patrick do not teach a network that is connected to a second network through lines different in communication capacity is persuasive. Therefore, the rejection has been withdrawn. This argument is repeated for several other claims and is also persuasive to those claims for the same reason. However, upon further consideration, a new ground(s) of rejection is made in view of Hudson et al. US 2003/0204613 A1.

3. Applicant's arguments, see pg. 10, with respect to the rejection(s) of claim(s) 25 under 103(a) have been fully considered and are persuasive. Specifically, the argument that Monteiro and Patrick do not teach a ring buffer is persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Allen US 2005/0120131 A1.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 22 recites the limitation "the at least one processor" in line13. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 22, 24, 29-32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monteiro et al. (6,434,622) in view of Patrick et al. (US 5,790,541), in view of Hudson et al. US 2003/0204613 A1 and further in view of Shibata et al. US 2001/0018772 A1.

8. Regarding claim 22, Monteiro teaches a communication system which has digital contents distribution server (primary server [20]) providing digital contents to a network (i.e. primary server [20] transmits the streamed data to media servers [30] in which retransmit that data to the users [40] via networks; [e.g. unicast link or multicast link], see Figures 1,3, and 4), the server [primary server] comprising:

dividing the digital contents [e.g. audio] into a plurality of packets (e.g. the server can divide each packet can correspond to a 20 millisecond segment of speech, see col 7 lines 10-22);

storing a list of destinations included in the second network (users/clients list resides on a primary server, see Fig. 4 and col 6 lines 30-44);

transmitting packets of a minimum unit for constructing the digital contents from the server through the networks (i.e. the primary server can only a single packet is transmitted at a time on the local network and any computer directly to the local network can receive that packet, see col 6 lines 21-23, col 3 lines 26-28, and see Fig. 3);

dynamically allocating [i.e. group membership is dynamic], by use of the list, the destinations to the network to which the packets of the minimum unit are transmitted (see col 6 lines 1-6);

receiving receipt notices from the destinations and selecting at least one destination, from the destinations, serving as an intermediate node [e.g. media server] by use of the receipt notices (i.e. a receipt notice is received by the primary server from the media

servers as shown in Fig. 3. This point towards the use of a TCP connection between the server which provides for reliable stream delivery, see col 7 lines 1-10);

transmitting the packets ... by use of ... the intermediate node (i.e. a media server [30] can transmit the packets of minimum unit to connected users, see Figures 3 and 16A/B, and col 16 line 49-56).

Monteiro does not explicitly teach having a distribution server connected to a first network and for providing the digital contents to a second network. Patrick, on the other hand, discloses a system in providing for distributed network routing of information [packets/frames] in a communication system. Patrick teaches a system having a distribution server connected to a first network and for providing the digital contents to a second network (see Figs 8-11, see col 10 line 19 - col 12 line 57).

It would have been obvious to one of ordinary skilled in the art at the time of invention was made to modify the system of Monteiro teachings to establish having first and second network taught by Patrick. One would be motivated to combine these teachings because in order to account for situations where servers are geographically distributed from each other and are not directly connected (see col 2 lines 7-14 [Patrick]).

Monteiro and Patrick do not explicitly disclose "a first network that is connected to the second network through lines different in communication capacity" however this is taught by Hudson as a distribution system that has network connections of varying

capacity (paragraph 30). It would have been obvious to one of ordinary skill in the art at the time of the invention to include different capacity links in a network for distributing content. Hudson suggests that systems should support connections of various size (paragraph 30). Thus this is merely the combination of known elements according to their established function in order to yield a predictable result.

Monteiro, Patrick and Hudson do not explicitly disclose "minimum unit mean the minimum packets capable of reconstructing original digital contents" however this is taught by Shibata as defining a minimum unit (packets) for reproducing digital content (paragraph 49). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Monteiro, Patrick and Hudson to transmit a minimum number of packets as taught by Shibata for the purpose of efficiency. Each data packet transmitted consumes time and resources. It would have been obvious to one of ordinary skill in the art to minimize excess data transmission for the purpose of efficiency and avoiding congestion. This is simply the application of networking principles that are well known in the art.

Regarding claim 24, Monteiro further teaches:
a destination list (i.e. users or client list resides on a server/node as in Fig. 4 and see col 6 lines 30-44); and dynamically updating the destination list in association with a change of a construction of the second network (i.e. updating the protocol sequences directed by a server, see Table 2 [col 12 lines 15-31]).

Regarding claim 29, it is a system claim that corresponds to claim 22, those corresponding parts are rejected for similar reasons.

Monteiro also teaches:

a server connected to the network (see Fig. 3) and for holding therein and transmitting the digital contents (i.e. the digital contents are being transmitted by a unicast link [TCP connection] to users from the primary server, see col 16 line 57- col 17 line 2); and

a plurality of groups constructed by including clients constructing the network connected to the another network and for constructing the wide area group for receiving and providing the digital contents (see Fig. 3, see col 5 line 66- col 6 line 34);

wherein the server [20] is configured for dividing the held digital contents into a plurality of packets (e.g. each packet can correspond to a 20 millisecond segment [dividing] of speech, see col 7 lines 10-22); and

transmitting packets of a minimum unit for constructing the digital contents to the clients in the group by dynamically allocating the packets without overlap, and wherein each of the clients having received the packets of the minimum unit distribute copies of the packets of the minimum unit received from the server to all of the clients constructing a group including the each client and another client constructing another group (i.e. users are resided on the network receiving copied packets of minimum unit from the media server in response to the selected client. Each packets are transmitted

in streams in a way that implements a form of multicast packets. Clients can duplicate the streams into more streams of data to retransmits those packets to other clients in the second network so there would not be any overlap in sending the same packet to the same user (see col 6 lines 30-44, col 5 lines 66-67, col 6 lines 1-13, and see Fig. 4).

Regarding claim 30, it is a server claim corresponding to system claim 29. It is rejected for the same reasons.

Regarding claim 31, Monteiro further teaches:
creating packets of a minimum unit comprises means for [primary server]
creating packets of a minimum unit including data for distributing a copy of the packets of the minimum unit at least to another group (see col 6 lines 30-44, col 5 lines 66-67, col 6 lines 1-13, and see Fig. 4).

Regarding claim 32, it is a method claim that corresponds to the device of claim 22, therefore it is rejected for similar reasons.

Regarding claim 34, it is a medium claim that corresponds to the device of claim 22, therefore it is rejected for similar reasons.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monteiro, Patrick, Hudson and Shibata as applied to claim 22 above, and further in view of Motles US 5,095,444.

Regarding claim 23, the combination of Monteiro in view of Patrick teaches the invention substantially as claimed. See the rejection of claim 22 above.

Monteiro further teaches:
means for (Administration Server [60]) registering, with the server (i.e. administration server is responsible for registering new users, authenticating the users who want to log onto the distribution system, see col 3 lines 50-63). The combination of Monteiro in view of Patrick, Hudson and Shibata does not explicitly teach a time when the server transmits the packets of the minimum unit to a predetermined destination, a time when a client having the predetermined destination issues the receipt notice of the packets of the minimum unit, and calculating a time difference between the transmission time and the receipt notice issuance time.

Motles, on the other hand, teaches a time when the server transmits the packets of the minimum unit [i.e. transmits a data stream] to a predetermined destination [i.e. determining the time when the source node transmits the data stream to the destination node [front-end processor], col 7 lines 50-54, abstract), a time when a client having the predetermined destination issues the receipt notice of the packets of the minimum unit

(i.e. determining a receipt time at which the response for the data stream is received by the source node, col 9 lines 1-3); and means [i.e. communications program used to determine the time of data communications between the source node and the destination node) for calculating a time difference between the transmission time and the receipt notice issuance time (i.e. determining the transmission delay which includes the calculation of the time difference between the issued time [source node transmits streamed data] and the receipt time [destination node response to the received data from source node, col 9 lines 16-19).

It would have been obvious to one of ordinary skilled in the art at the time of invention was made to modify the system of Monteiro and Patrick teachings to include the time difference to when the packets are transmitted from the server to the destination client and the receipt notices at which the response for the packets is received by the source node taught by Motles. One would be motivated to combine these teachings because data communication is known for transmission delays between the server or source node and the destination node/client is determined by calculating the time difference between the issue time of when the server transmits the packets to the destination node via the network and receipt time at which the response for the packets is obtained by the server. It is very well known in the art to monitor the statuses of the transmission time for the route at which packets are being transmitted via the network between servers and clients (see col 1 lines 33-54 [Motles]).

10. Claims 25 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monteiro, Patrick and Shibata and further in view of Allen US 2005/0120131 A1.

Regarding claim 25, Monteiro further teaches:

receiving, through the network, dynamically allocated packets of a minimum unit constructing digital contents divided into a plurality of packets (i.e. the packets are being transmitted from the primary server to the media server, see col 5 line 66- col 6 line 14); [Users/media servers, 30/40] receiving packets for reconstructing the digital contents through the network; and a central processor ... for making clients in the second network hold the digital contents therein by use of the packets of the minimum unit received through the first network and packets received from other clients through the network (i.e. the media server broadcasts the packets to the users [40] in the second network, see col 6 lines 15-36, see Fig. 3).

Monteiro and Patrick do not explicitly disclose "minimum unit mean the minimum packets capable of reconstructing original digital contents" however this is taught by Shibata as defining a minimum unit (packets) for reproducing digital content (paragraph 49). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Monteiro, Patrick and Hudson to transmit a minimum number of packets as taught by Shibata for the purpose of efficiency. Each data packet transmitted consumes time and resources. It would have been obvious to one of ordinary skill in the art to minimize excess data transmission for the purpose of

efficiency and avoiding congestion. This is simply the application of networking principles that are well known in the art.

Monteiro, Patrick and Shibata do not explicitly disclose "a receiving buffer constructed as a ring buffer" however this is taught by Allen (paragraph 333). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the ring buffer taught by Allen with Monteiro for the purpose of storing data. A ring buffer is simply a type of buffer and thus the combination of Allen with Monteiro, Patrick, and Shibata is merely the combination of known elements according to their established function in order to yield a predictable result.

Regarding claim 27, Monteiro further teaches:
identifying the packets of the minimum unit from the packets received from the other clients (i.e. the indication of using a TCP connection can identify that packets of the minimum unit were received by other servers/users, see col 7 lines 1-10).

Regarding claim 28, Monteiro further teaches:
a list of members constructing the second network (i.e. users or client list resides on a server as in Fig. 4 and see col 6 lines 30-44); and updating the list in any of cases where a client is added to and deleted from the second network (i.e. updating the protocol sequences directed by a server, see Table 2 and col 12 lines 15-31).

11. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monteiro, Patrick, Shibata and Allen as applied to claim 25 above, and further in view of Motles.

Regarding claim 26, Motles further teaches:
the central processor [server] preparing a receipt notice which comprises a time of receiving the packets of the minimum unit (i.e. determining a receipt time at which the response for the data stream is received by the source node, col 9 lines 1-3).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ishibashi US 6,778,537 B1 discloses using minimum units for transmitting data streams.

Yao et al. US 2003/0204585 A1 discloses distributing data through network links of varying capacity.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON RECEK whose telephone number is (571)270-1975. The examiner can normally be reached on Mon - Thurs 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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